

IN THE CLAIM:

1. (Currently Amended) Gear for a robot having a drive shaft and at least two first and second parts rotatable relative to the drive shaft and to one another, in which a movement of the first part is removable on a first end side remote from the second part, characterized in that at least one of the first parts part has a reference shaft connected in non-rotary manner thereto and which projects at least to the other part, said movement of said first part is additionally removable by means of said shaft on a second side facing said second part and remote from said first end side.

2. (Previously Presented) Gear according to claim 1, characterized in that the shaft (1) located on one part (3, 4) traverses the other part (4, 3) to its side (4b, 3b) remote from the one part (3, 4).

3. (Previously Presented) Gear according to claim 1, characterized in that the shaft (15) located on the one part (3, 4) is the drive of the sensor device (10) located in and/or on the other part (4, 3).

4. (Previously Presented) Gear according to claim 3, characterized in that the sensor device (10) is a monitoring device for determining and/or limiting the rotation parameters.

5. (Previously Presented) Gear according to claim 3, characterized in that the sensor

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device (10) has a stub shaft (12) guided in a receptacle (13) and determines the rotation angle between stub shaft (12) and receptacle (13).

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6. (Previously Presented) Robot according to claim 5, characterized in that the receptacle (13) of the sensor device (10) is located on one part (3, 4) and the stub shaft (120) is connected in non-rotary manner to the shaft (15) located on the other part (4, 3).

7. (Previously Presented) Robot according to claim 3, characterized in that an optical sensor device (10) is provided.

8. (Previously Presented) Robot according to claim 3, characterized in that a magnetic sensor device (10), particularly a resolver is provided.

9. (Previously Presented) Robot according to claim 3, characterized in that an electrical or electromagnetic sensor device (10) is provided.

10. (Previously Presented) Robot according to claim 3, characterized in that a torque compensator connected to the sensor device (10) is provided for the robot rotation axis (2).

11. (Previously Presented) Gear according to claim 1, characterized in that the shaft (15) located on one part (3, 4) is subject to a torque.

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12. (Previously Presented) Gear according to claim 11, characterized in that an auxiliary motor is provided on the shaft (15).

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13. (Previously Presented) Gear according to claim 1, characterized in that the drive shaft (7) is a high speed side driven shaft of a drive motor (6) or is connectable thereto.

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14. (Previously Presented) Gear according to claim 1, characterized in that the rotary parts (3, 4) are movable at a lower speed than the drive shaft (7).

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15. (Previously Presented) Gear according to claim 1, characterized in that the shaft (15) is positioned coaxially to the rotation axis (2) of at least one of the parts (3, 4).

16. (Previously Presented) Gear according to claim 1, characterized in that the parts (3, 4) are positioned coaxially.

17. (Previously Presented) Gear according to claim 1, characterized in that the gear (1) is an in particular high speed reducing spur, bevel, worm or epicyclic gear.

18. (Previously Presented) Gear according to claim 1, characterized in that the gear (1) is a harmonic drive gear.

19. (Previously Presented) Gear according to claim 1, characterized in that the drive motor (6) is positioned centrally to the rotation axis (2) of at least one of the parts (3, 4).

20. (Previously Presented) Gear according to claim 1, characterized in that the drive motor (6) is positioned eccentrically to the rotation axis (2) of at least one of the parts (3, 4).

21. (Previously Presented) Gear according to claim 1, characterized in that the drive motor (6) is positioned under a finite angle with respect to the rotation axis (2) of at least one of the parts (3, 4).

22. (Previously Presented) Gear according to claim 21, characterized in that the drive motor (6) is placed approximately under a right angle with respect to the rotation axis (2) of at least one of the parts (3, 4).

23. (Previously Presented) Gear according to claim 1, characterized in that one part (3) is constructed as a gearbox and the other part (4) as a gear shaft.

24. (Previously Presented) Robot, characterized by at least one gear (1) according to one of the claims 1 to 23.

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28. (New) A gear arrangement for driving an external device, the arrangement comprising:

5 a first gear part having a first side and a second side;
a second gear part rotatably connected to said first gear part, said second gear part having a first side adjacent said second side of said first gear part, said second gear part having a second side positioned diametrically opposite said first gear part, said first side of said first gear being positioned diametrically opposite said second gear part;

10 a drive input rotatably connected to said first gear part on a side of said first gear part other than said second side of said first gear part;

an auxiliary rotation connection between said first and second gear parts, said auxiliary rotation connection having a first connection part rotationally fixed to said first gear part, said auxiliary connection having a second connection part rotationally fixed to said second gear part.

29. (New) An arrangement in accordance with claim 28, wherein:

said second connection part extends from said first side of said second gear part, through said first gear part to said first side of said first gear part.

30. (New) An arrangement in accordance with claim 29, wherein:

said drive input enters into said first side of said first gear part.

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31. (New) An arrangement in accordance with claim 28, wherein:
said drive input enters into said first gear part in a direction substantially parallel to
said first and second sides of said first gear part.

32. (New) An arrangement in accordance with claim 28, further comprising:
a sensor connected to said auxiliary rotation connection and measuring parameters
of said first and second gear parts through said first and second connection parts.

33. (New) An arrangement in accordance with claim 28, further comprising:
a torque device connected to said auxiliary connection and applying torque to said
first and second gear parts through said first and second connection parts.